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A CLINICAL STUDY OF PRIMARY CAESAREAN SECTION IN MULTIPAROUS WOMEN

Vrinda Patil* Assistant Professor, Department of Obstertics and Gynecology, SDM College Of Medical Sciences And Hospital, Manjushree Nagar, Sattur, Dharwad, Karnataka-580009, India *Corresponding Author

Vidya Kamath Professor, Department of Obstertics and Gynecology, SDM College Of Medical Sciences And Hospital, Manjushree Nagar, Sattur, Dharwad, Karnataka-580009, India

Girija Junior Resident, Department of Obstertics and Gynecology, SDM College Of Medical Sciences And Hospital, Manjushree Nagar, Sattur, Dharwad, Karnataka-580009, India

ABSTRACT

OBJECTIVES: Primary: To evaluate the incidence of primary caesarean section among multiparous women with previous vaginal delivery.

Secondary: To study maternal and foetal outcome.

METHODS: This is a prospective study of 160 cases of primary caesarean section in multiparous women from November 2014 to October 2015, done in the Department of Obstetrics and Gynaecology, Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad. Multiparous women who underwent caesarean section for the first time who had a vaginal delivery previously were included in the study. Multiple pregnancy, Primigravida,Gestational age less than 37 weeks and women with previous history of caesarean section or hysterotomy,myomectomy or septal resection were excluded in the study.

RESULTS: The frequency of primary caesarean section in multiparous women is 7.2% of total caesarean sections and 3.1 % of the total number of deliveries during the study period. Majority of patients in the study were of the age group between 26-30yrs. Majority of the women were gravida II and 68.5% of the patients were booked and 32.5% of the patients were unbooked. Malpresentations (26.3%), hypertensive disorders of pregnancy (18.1%) anaemia (10.6%), antepartum haemorrhage (8.1%), were the most common antenatal complications. Foetal distress (28.8%), malpresentations (26.3%), cephalopelvic disproportion (19.4%) and antepartum haemorrhage (8.1%) were the most common indications for caesarean section. Postoperative maternal morbidity was seen in 19.4% patients. Among them urinary tract infection (7.5%) and pyrexia (6.3%) were more common. Blood transfusion was required in 7.5%of the patients. There were no maternal deaths in the present study. Out of 158 live births, 32 babies (20.3%) were admitted in NICU and majority of them were for respiratory distress 13(8.1%) and meconium aspiration syndrome 8(5%). There were no neonatal deaths.

CONCLUSION:A multipara who has earlier delivered vaginally may require a caesarean section for safe delivery. This study reemphasizes the need for proper antenatal care and vigilance in the management of labour. There may be a need for operative interventions for the good outcome of both mother and baby.

KEYWORDS : BOH: Bad obstetric history, CPD : Cephalopelvic disproportion , DTA: Deep transverse arrest, IUGR : Intra Uterine Growth Restriction, MAS: Meconium aspiration syndrome.

INTRODUCTION

There is worldwide trend of increase in caesarean section rates. With improved safety following, introduction of modern anaesthesia, higher antibiotics and blood transfusion facilities the indications for caesarean section are liberalized to include dystocia, foetal distress, placenta previa, BOH, and others. Caesarean section is considered as a safer alternative to prolonged and difficult vaginal operative delivery to reduce maternal and perinatal morbidity and mortality[1].

Multiparity is a problem associated with low age at marriage, low rate of literacy, high perinatal mortality, preference for male child and ignorance about family planning measures. In a paper entitled ―The dangerous multipara, published in 1934, Dr. Bethel Solomon's stated ―My object in writing this paper and giving it a sensational title is to remove if possible once and for all, from the mind of the reader, the idea that a primigravida means difficult labour, but a multipara means an easy one[2]. The major causes of maternal mortality among these women were rupture uterus, placenta previa, hypertensive vascular disease, and malpresentations[3].

Multiparity with associated advanced maternal age has foetal risks like indicated preterm delivery for maternal complications such as hypertension and diabetes, foetal growth disorders related to chronic maternal diseases or multifoetal gestation and foetal aneuploidy[4].

Multiparous women who have delivered vaginally often neglect routine antenatal checkup[5].It is for these reasons that attention has been directed to the indication for caesarean section in women who have previously delivered vaginally[6]. Multipara is a woman who has completed two or more pregnancies to the period of viability. The term, grand-multipara was introduced by Solomon in 1934. Feeny preferred the term ―unpredictable multi[7].

Grand multipara, as per International Federation of Obstetrics, is the delivery of fifth to ninth infant where as women who are undergoing tenth or more delivery are called as great-grand multiparas.

Maternal mortality rises with increasing parity after fifth delivery. Rupture uterus, chronic hypertensive disease and placental complications are important causes which contribute to both morbidity and mortality. However the mortality rate in grand multipara has decreased considerably in present day obstetrics[8].Risk of perinatal death and neonatal morbidity rises, once parity is greater than four[9].From 1970 to 2010,the caesarean delivery rate in the United States rose from 4.5 percent of all deliveries to 32.8 percent-1.According to latest data from 150 countries, currently 18.6% of all occur by caesarean section, ranging from 6% to 27.2% in the least and most developed regions, respectively[10].

The present study focuses on the various indications for caesarean section in multiparous women who had delivered vaginally earlier and their outcome.

AIMS AND OBJECTIVES OF THE STUDY:

Primary: To evaluate the incidence of primary caesarean section among multiparous women with previous vaginal delivery.

Secondary: To study maternal and foetal outcome.

MATERIALS AND METHOD

This is a prospective study of 160 cases of primary caesarean section in multiparous women from November 2014 to October 2015, done in the Department of Obstetrics and Gynaecology, Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad.

INCLUSION CRITERIA:

1. Multiparous women,
2. Who underwent caesarean section for the first time who had a vaginal delivery previously.
3. Term gestation.
4. Singleton pregnancy.

EXCLUSION CRITERIA:

1. Previous caesarean section or hysterotomy, myomectomy or septal resection
2. Multiple pregnancy
3. Primigravida
4. Gestational age <37 weeks

STUDY DESIGN: Prospective Study

DATA SOURCE: Data collected from patients attending the labour room and outpatient department of Obstetrics and Gynaecology, SDM College of Medical Sciences and Hospital, Dharwad.

STUDY PERIOD:
One year from November 2014 to October 2015.

STATISTICALANALYSIS:
Descriptive statistics was applied and data was analysed by percentages and chi square test.

METHODOLOGY:
Information regarding age, socioeconomic status, details about previous pregnancy, antenatal care and booking status was collected. Complete general physical examination, systemic examination and obstetric examination was done. Routine and relevant investigations such as Hb gm/dl, blood grouping and Rh typing, VDRL, HIV, HBsAg, GST and urine analysis for albumin, sugar, microscopy were all done. Ultrasound with foetal Doppler study was done whenever found necessary.

Cardiotocographic monitoring was done during labour to assess foetal wellbeing. Details like, duration of labour, indication for caesarean delivery, colour of liquor, abnormality of III stage, puerperium; weight of baby, maturity, APGAR and congenital malformation are recorded. Maternal complications like postpartum haemorrhage, anaemia, pre-eclampsia, hydramnios, antepartum haemorrhage and intra-uterine growth restriction were noted. Neonatal morbidity like low birth weight, meconium aspiration syndrome and birth asphyxia were noted.

OBSERVATION & RESULTS

Table1: Frequency of primary caesarean section in multipara.

Total number of deliveries	5173
Total number of caesarean section	2208
Total number of caesarean section in multipara	160
Total number of multipara	2712

The frequency of primary caesarean section in multiparous women is 7.2% of total caesarean sections and 3.1 % of the total number of deliveries during the study period. Frequency of caesarean section among total multiparous women is 5.9%.

TABLE NO 2: AGE DISTRIBUTION

Age distribution(years)	Number of patients	percentage
<20	1	0.7
21-25	33	20.6
26-30	76	47.5
31-35	37	23.1
36-40	13	8.1

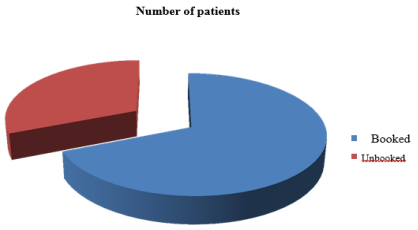
Majority of patients in the study were of the age group between 26-30yrs.Youngest women in the study was of 21 years of age and the oldest was 40 years old.

TABLE 3: GRAVIDITY AND PARITY DISTRIBUTION

Column1	I	II	III	IV	V	VI	VII or more
Gravidity		75	47	31	4	3	-
Parity	108	38	12	2	-	-	-

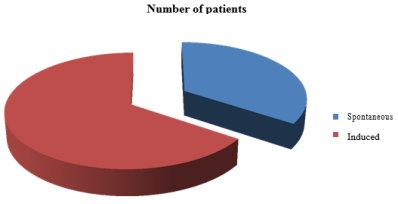
In the study majority of women were of gravida II. The highest gravidity in the study was 6 and the highest parity in the study was 4.

Graph 1: Antenatal care



In this study of 160 cases, 68.5% patients were booked cases and 32.5% were unbooked.

Graph 2: Type of labour



In this study, 24% patients had spontaneous onset of labour, while 45% underwent induction of labour. Incidence of caesarean section was more among induced labour patients.

Table 4: Antenatal Complications

Complications	Number of patients	Percentage
Anaemia	17	10.6
Antepartum haemorrhage	13	8.1
Placenta previa	10	
Abruptio placenta	3	
Hypertensive disorders of pregnancy:	29	18.1
Gestational hypertension	8	
Non severe preeclampsia	6	
Severe preeclampsia	8	
Imminent eclampsia	1	
Eclampsia	1	
Chronic hypertension	5	
HELLP syndrome	2	1.2
Gestational diabetes mellitus	5	3.1
Overt diabetes mellitus	2	1.2
Polyhydramnios	7	4.3
Oligohydramnios	5	3.1
IUGR	5	3.1
Malpresentations	42	26.3
Rh Negative	8	5
RHD	3	1.8
Others	7	4.3
HBsAg Positive	2	
Old MI	1	
HIV Positive	1	
HCV Positive	1	
Left hemiparesis	1	
left ovarian dermoid cyst	1	

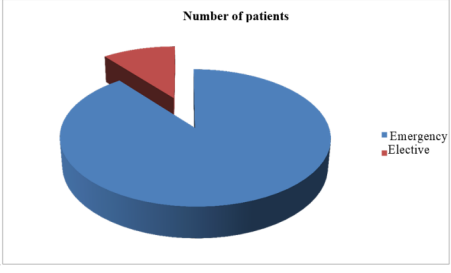
Anaemia, antepartum haemorrhage, malpresentations and hypertensive disorders of pregnancy are frequently encountered in multiparous women. Malpresentations were more frequently associated accounting for 26.3%. Anaemia (Hb% < 10gm%) was observed in 10.6% cases and antepartum haemorrhage was encountered in 8.1% cases, hypertensive disorder of pregnancy in 18.1% patients had eclampsia. Some patients in the study had 2 or more complications.

Table 5: Indications Of Primary Caesarean Section In Multiparous Women

Indications	Number of patients	Percentage
Foetal Distress	46	28.8
Malpresentations	42	26.3
Cephalopelvic Disproportion	31	19.4
Antepartum haemorrhage	13	8.1
Bad obstetric history	7	4.4
Precious pregnancy	6	3.4
Non progress of labour	5	3.1
Failed induction	5	3.1
Obstructed labour	2	1.3
Rectovaginal fistula	1	0.7
Maternal request	1	0.7
Cord prolapse	1	0.7

There were different indications for caesarean section in the patients. Foetal distress was the most common indication having highest number of cases 46(28.8%), next most common being the malpresentations 42(26.3%), cephalo pelvic disproportion was 31 (19.4%), number of patients with antepartum haemorrhage were 13(8.1%), patients with bad obstetric history were 7(4.4%), precious pregnancy were 6(3.4) patients with non progress and failed induction contributed 5(3.1%) each, obstructed labour were 2(1.3%),recto vaginal fistula, maternal request and cord prolapse accounted for 1(0.7%) each.

GRAPH 3: TYPE OF CAESAREAN SECTION



Majority of cases 143 (89.4%) underwent emergency caesarean section and 17(10.6%) cases had elective caesarean section. Among 160 caesarean sections,56 patients underwent tubectomy.

Spinal anaesthesia was commonly used during surgery in 159(99.5%) cases and General anaesthesia was used in 1(0.5%) case.

Table No 6: Distribution Of Malpresentations

Presentation	No of Patients	Percentage
Breech	32	76.1
Transverse lie	5	11.9
Face	2	4.8
Brow	1	2.4
Oblique lie	1	2.4
Compound	1	2.4

Among malpresentations , most common was breech presentation accounting for 32(76.1%) cases followed by transverse lie in 5 (11.9%), face 2(4.8%), brow, oblique lie and compound presentation 1(2.4%) each.

Table 7: Significant Intraoperative Finding In Study

Operative finding	Number of patients	Percentage
Meconium stained liquor	46	28.8
Thinned lower segment	7	4.4
Placenta previa	10	6.1
Postpartum haemorrhage	16	10
Bladder wall oedema	5	3.1
Retro placental clots	3	1.9
Bandl's ring	2	1.3
Uterine anomalies	2	1.3
Extension of incision	7	4.4
Couvelaire uterus	1	0.6
Ascites	3	1.9
Excess liquor	3	1.9
Scanty liquor	7	4.4

Most common intra operative complication was postpartum haemorrhage seen in 16(10%) patients. Other complications were, thinned lower segment 7(4.4%), bladder wall oedema 5(3.1%) bandl's ring 2(1.3%), extension of uterine incision 7(4.4%), ascites 3(1.9%) and couvelaire uterus 1(0.6%). Significant intraoperative finding ,most common was meconium stained liquor 48(28.8%) others were placenta previa 10(6.1%), scanty liquor 7(4.4%), excess liquor 3(1.9%), retro placental clots 3(1.9%), and uterine anomalies 2(1.3%) both of which were septate uterus.

Table 8: Maternal Morbidity

Maternal morbidity	Number of patients	Percentage
Paralytic ileus	4	2.5
Pyrexia	10	6.3
Wound infection	3	1.9
Urinary tract infection	12	7.5
Respiratory tract infection	2	1.3

As shown in the table postoperative morbidity was present in 31(19.4%) patients, among them urinary tract infection 12(7.5%) and pyrexia 10(6.3%) were more common. Others were paralytic ileus 4(2.5%), wound infection 3(1.9%) and respiratory tract infection 2(1.3%).

Table 9: Birth Weight Distribution

Birth weight(kg)	Number of babies
< 1.5	3
1.6-2.0	5
2.1-2.5	19
2.6-3.0	57
3.1-3.5	58
3.6-4.0	17
>4	1

In the study majority of the babies weighed in the range of 3.1 to 3.5 kg. Birth weight weighing <1.5 kg were three and > 4 kg was one.

Table 10: Neonatal Outcome

Neonatal outcome	Number	Percentage
Live births	158	98.8
Stillbirth	1	0.6
IUD	1	0.6

In the study there were 158 (98.8%) live births, one still birth which was referred in view of obstructed labour and one intra uterine death with central placenta previa , both for which caesarean section had to be done for maternal indication.

Table 11: Neonatal Morbidity

NICU admission	Number of babies	Percentage
Transient tachypnea of newborn	5	3.1
Meconium aspiration syndrome	8	5
Respiratory distress	13	8.1
Low birth weight	6	3.8

Table 15, shows the causes for NICU admissions for the babies in the study. Out of 158 live births 32 (20.3%) babies were admitted in NICU and majority of them were for respiratory distress 13(8.1%) and meconium aspiration syndrome 8(5%). Others were for low birth weight 6(3.8%) and transient tachypnea of newborn 5(3.1%).

DISCUSSION

This is a prospective study undertaken to analyse 160 cases of caesarean section done for first time in multiparous women. There were 5173 deliveries, around 2208 caesarean section which represented 42.7% of all deliveries. Incidence of primary caesarean section in parous women is 3.1% of all deliveries and accounted for

7.2% of all sections done.

Table12: Incidence Of Caesarean Section In Multipara Among Different Studies

Studies	Incidence
Desai et al11	29%
Jyoti Rao et al12	10.28%
Partha saradhi et al13	7.68%
P.Himabindu et al1	7%
Rupal samal et al14	6.04%
Present study	7.2%

In a study by Jyoti Rao et al most common age group was 25-29 years(41.5%).In our study majority of women undergoing primary caesarean section were in age group of 26-30 years (47.5%) Most common indication of caesarean section were foetal distress 46(28.8%), malpresentations 42(26.3%), cephalopelvic disproportion 31(19.4%) and antepartum haemorrhage 13(8.1%).

Table 14: Indications For Primary Caesarean Section In Multiparous Women Compared To Other Studies.

Indications	Present Study(in%)	Himabindu	Desai et al	Jyoti Rao et al	Partha saradhi	Samal R et al
Fetal Distress	28.8	24.7	25.5	17	8.02	42.6
Malpresentations	26.3	19.3	17.4	33.5	30.7	26.4
Cephalo-pelvic Disproportion	19.4	3.2	19.7	18.5	10.3	14.7
Antepartum haemorrhage	8.1	11.2	22.1	19.5	8.9	5.9
Bad obstetric history	4.4	3.2	-	-	2.06	-
Precious pregnancy	3.4	-	-	-		--
Non progress	3.1	8.6	4.6	-	8.25	-
Failed induction	3.1	5.9	-	-	15.3	4.5
Obstructed labour	1.3	3.2	-	18.5	5.04	-
Recto-vaginal fistula	0.7	-	-	-	-	-
Maternal request	0.7	-	-	-	-	-
Cord prolapse	0.7	-	2.33	-	2.06	1.5

Majority of cases 143 (89.4%) underwent emergency caesarean section and only 17(10.6) cases had elective caesarean section. Among160 caesarean sections, 56 patients underwent tubectomy.

Table 15: Distribution Of Type Of Caesarean Section

Studies	Emergency LSCS	Elective LSCS
Desai et al	67.7%	32.3%
Partha saradhi et al	89.44%	10.56%
Himabindu et al	78.5%	21.5%
Sethi et al15	91%	9%
Present study	89.4%	10.6%

In our study with good intra operative and postoperative care there was no maternal mortality. Postoperative morbidity was present in 31(19.4%) patients, among them urinary tract infection 12(7.5%) and pyrexia 10(6.3%) were more common.

Table 16: Maternal Morbidity Rate Among Various Studies

Postoperative morbidity	Present Study	Himabindu etal	Desai etal	Sethi etal	Jyoti Rao etal
Paralytic ileus	2.5	7.5	13.95	1	-
Pyrexia	6.3	18.27	11.63	5	3.5
Wound infection	1.9	8.6	10.47	6	7.5
Urinary tract infection	7.5	9.6	2.33	-	2
Respiratory tract infection	1.3	9.1	-	-	-

Out of 158 live births 32 (20.3%) babies were admitted in NICU and majority of them were for respiratory distress 13(8.1%) and meconium aspiration syndrome.

Table 17: Neonatal Morbidity Rate Among Various Studies:

Studies	Percentage
Jyoti rao et al	16.5
Partha saradhi et al	11.5
Himabindu	15
Sethi et al	17
Present study	20

A study by Ford et al.in the United States, the primary caesarean delivery rate among parous women decreased modestly from 7.1% in 1990 to 6.6% in 1996 but increased to 9.3% in 2003 .Similar to the overall caesarean delivery rate ,the primary caesarean rates among parous women with singleton pregnancies increased substantially in the US since 1996[16].. A study on maternal and foetal outcome of grand multipara, by Singh SP et al.in 2015,the caesarean rate was 28%.The common medical illness found in grand multipara were,anaemia(92%),hypertension(13%),preeclampsia(9%),eclampsia(4%) and diabetes mellitus(2%)[17].Study conducted by Van Praagh and Tovell, showed rate of caesarean section in multipara to be (16.9%), indications being dystocia (40.5%),haemorrhage(19.2%),previous pelvic operation (18.2%),foetal distress (7.6%),elective caesarean section(4.3%),Rh sensitization (3.8%), bad obstetric history (2.4%),diabetes mellitus (0.9%), postmaturity (0.7%)[18]..Afzal A et al.in his study on pregnancy outcomes in grand multiparous patients found higher number of Lower segment caesarean section in grand multiparous patients (29%) as compared to14.6% of multiparous patients[19].Caesarean section following a failed operative vaginal delivery attempt had a higher foetal morbidity rate as compared in elective caesarean delivery group[20].

CONCLUSION: A Multipara Who Has Earlier Delivered Vaginally May Require A Caesarean Section For Safe Delivery.this Study Reemphasizes The Need For Proper Antenatal Care And Vigilance In The Management Of Labour For The Good Outcome Of Both Mother And Baby,therefore Reducing The Maternal Morbidity And Mortality.

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